

Disease Detectives

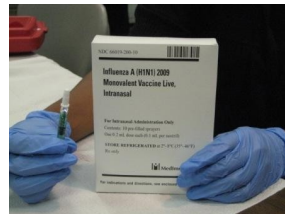
Communicable Disease Control

UPDATE

MECKLENBURG COUNTY HEALTH DEPARTMENT
A Quarterly Publication

A Preparedness Experience and a Successful Response

The following was written by Bobby Cobb, Deputy Health Director, Mecklenburg County Health Department:



In the Summer 2009 issue of the "Communicable Disease/Update", we chronicled the emergence of

the H1N1 flu. After its emergence in the spring, the virus became less prevalent for several months, but began to re-emerge in late summer as students returned to schools and universities. The epidemiological peak occurred in late October and early November just as the H1N1 vaccine became available. Since that time, the virus has remained mild, and the surveillance indicators have been lower than expected in typical flu seasons. But the uncertainty about disease prevalence and severity, vaccine availability, and other factors required that the medical community respond with a complete and coordinated effort.



H1N1 quickly spread as a global pandemic causing the World Health Organization to raise the pandemic alert level to Phase 6 on June 11, 2009. We began to plan for business continuity where 30-40% of our workforce might be ill and/or unavailable; we knew that we needed to

prepare for a long term response that would take months or even years. During the first 6 months, information and guidance about H1N1 was changing on a weekly and sometimes daily basis. It was important to have a dependable and efficient way to communicate new details about H1N1. The Health Department soon developed a comprehensive web site (MeckHealth.org) as the method for informing the public, the media, the medical community and our staff. Individuals could sign up for automatic notification about changes or track that information in our "What's New" section.



Effort was coordinated separately within organizations (Mecklenburg County Health Department,

Carolinas HealthCare System (CHS), Novant Health, MEDIC, etc.) but had to be managed together for the community in an **incident command structure (ICS)**. Therefore these organizations met and worked together on a weekly basis to share information and coordinate strategies. The ICS also involved emergency management, law enforcement, and the rest of city and county services. It was necessary to coordinate with others on prevention messages, epidemiological indicators, immunization strategies, staff expectations and a variety of other policies to create a level of consistency while allowing for individual agency flexibility. The shared leadership resulting from this "joint command" helped to protect the

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Mumps



The mumps outbreak in New York and New Jersey between June 2009 and

January 2010 has received a significant amount of attention in the press. In this outbreak, the index case was an 11 year old who had a travel history to the United Kingdom where approximately 7,400 reports of laboratory-confirmed cases of mumps were received by the Health Protection Agency in 2009. Less than 10 days after returning to the United States, while attending camp in New York, the child became symptomatic. Other children and staff at the camp also developed symptoms and after camp concluded, mumps continued to spread through the community.

As of January 29, 2010, 1,521 cases had been reported in this outbreak. Vaccination status is known for 1,115 of the infected patients. Of these patients, 976 received at least one dose of mumps-containing vaccine before the outbreak and 839 received 2 doses. Beginning January 19, 2010, public health officials in one county began offering a third dose of MMR vaccine in three schools where, despite having written evidence of compliance, transmission had continued for more than 2 months.

Mumps is a disease caused by a virus that usually spreads through saliva and can infect many parts of the body, especially the parotid salivary glands. These glands, which produce saliva for the mouth, are found toward the back of each cheek and in the area between the ear and jaw. In cases of mumps, these glands typically swell and become painful.

Mumps was common in children until the mumps vaccine was li-

censed in 1967. Before the vaccine, more than 200,000 cases occurred each year in the United States. Since then, the number of cases has dropped to fewer than 1,000 a year, and epidemics have become fairly rare. Most cases of mumps are reported in children 5-14 years of age, but the proportion of young adults who become infected has been rising slowly over the last two decades. Mumps infections are uncommon in infants.

Signs and symptoms of mumps include: fever, headache, muscle aches, malaise, loss of appetite, and swollen, tender salivary glands under the ears on one or both sides (parotitis). Symptoms typically appear 16-18 days after infection, but the incubation period can range from 12-25 days.

Mumps is spread by mucus or droplets from the nose or throat of an infected person, usually when they cough or sneeze. Surfaces of items (toys, books, etc.) can also spread the virus if someone who is sick touches them without proper hand washing and someone else touches the same surface and then rubs the eyes, mouth, nose, etc. The period of time that an infected person can most easily transmit mumps to a non-infected person ranges from 1-2 days before symptoms appear to about 5 days after the symptoms appear.

Most mumps transmission likely occurs before the salivary glands begin to swell and within 5 days after the swelling begins. The Centers for Disease Control and Prevention (CDC), therefore recommends isolation of mumps patients for 5 days after gland(s) begin to swell.

There is no specific treatment for mumps. Supportive care should be given as needed. Symptomatic patients visiting medical facilities for care should be isolated.

Mumps vaccine is the best way to prevent the disease. Mumps vaccine effectiveness has been estimated at 62-91% for one dose and 76-95% for two doses. Children should receive the first dose of mumps-containing vaccine at 12-15 months and the second dose at 4-6 years. Thorough hand washing, not sharing eating utensils, and regularly cleaning surfaces that are frequently touched (toys, doorknobs, tables, counters) with soap and water are also effective in limiting the spread of disease.

Mecklenburg County reported 5 cases of mumps in 2009. The last time Mecklenburg County reported a significant number of cases was in 2006 when 26 cases were identified.

For more information, go to www.cdc.gov or contact Penny Moore at 704.353.1270 or Wilma.Moore@MecklenburgCountyNC.gov.

This periodical is written and distributed quarterly by the Communicable Disease Control Program of the Mecklenburg County Health Department for the purpose of updating the medical community in the activities of Communicable Disease Control. Program members include: Health Director—E. Wynn Mabry, MD; Medical Director—Stephen R. Keener, MD; Deputy Health Director—Bobby Cobb; Director, CD Control—Carmel Clements; Sr. Health Manager—Wanda Locklear; CD Control nurses—Freda Grant, Jane Hoffman, Penny Moore, Elizabeth Quinn, Belinda Worsham; Childcare nurse—Elizabeth Young; TB Outreach nurse—Earlene Campbell-Wright (also Adult Day Health); Rabies/Zoonosis Control—Al Piercy; Sr. Health Manager STD/HIV—Lorraine Houser; Health Supervisor—Carlos McCoy; DIS—Mary Ann Curtis, John Little, Michael Rogers, Jose' Pena; Preparedness Coordinator—Bobby Kennedy; CRI Coordinator—Amy Williams; Regional Surveillance Team—Valerie Lott, Denise Wall, Vivian Brown; Office Assistants—Audrey Elrod, Natalie Jones

Lorraine Houser
Carmel Clements
Editors

Perinatal Hepatitis B

Since 1990, physicians in North Carolina have been required to test all pregnant females for hepatitis B virus. The law requires physicians to report hepatitis B surface antigen (HBsAg) positive patients to the local health department. Communicable Disease Control nurses at local health departments in North Carolina are tracking the exposed infants to assure that proper immunoprophylaxis and post-vaccination serologic testing are done. Post-vaccination testing is needed to determine the success of the prophylaxis and identify infected infants and infants in need of re-vaccination. Exposed infants have been tracked by the CD Control nurses at the Mecklenburg County Health Department for the last twelve years.

Infants who become infected by perinatal transmission have a 90% risk of chronic hepatitis B infection, and up to 25% of the chronically infected infants will die of liver dis-

ease as adults. Treating exposed newborns with Hepatitis B Immune Globulin (HBIG) and the Hepatitis B vaccine (HBV) series is 85-95% effective at preventing chronic infection. HBIG and HBV #1 should be given within 12 hours of birth. The second HBV should be given at age 1-2 months. If using single antigen vaccine, the third HBV is given at age 6 months.

In 2006, the Mecklenburg County Health Department tracked 49 infants who had perinatal exposure to hepatitis B (see Table 1). Forty-four (89.7%) received HBIG and HBV at birth. Thirty-seven (75.5%) received the third HBV by age 12 months compared to a state average of 81.4%. Thirty-five (71.4%) received post-vaccination testing compared to a state average of 58.4%. None of the infants born in 2006 in North Carolina tested HBsAg positive.

In 2007, the Mecklenburg County Health Department tracked 44 in-

fants who had perinatal exposure to hepatitis B (see Table 1). Forty-two (95.4%) received HBIG and HBV at birth. Forty-three (97.7%) received the third HBV by age 12 months compared to state average of 87%. Thirty-two (72.7%) received post-vaccination testing compared to a state average of 64%. Two (6.2%) of the thirty-two infants who received post-vaccination testing in Mecklenburg County were infected.

Stringent efforts must be continued in both the public and private sectors to ensure all pregnant females are tested for hepatitis B, all pregnant females who are HBsAg positive are reported to the Health Department, all exposed infants are given immunoprophylaxis according to CDC guidelines, and all exposed infants receive post-vaccination testing.

For more information, please contact Jane Hoffman at 704.336.5490 or Jane.Hoffman@MecklenburgCountyNC.gov.

Table 1

	North Carolina 2006	Mecklenburg 2006	North Carolina 2007	Mecklenburg 2007
Live Births	127,646	14,344	130,886	14,767
No. Live Births to HBsAg positive women	243 (0.19%)	49 (0.34%)	216 (0.16%)	44 (.29%)
No. Infants Tracked	243 (100%)	49 (100%)	217** (100%)	44 (100%)
No. Infants who received HBIG & HBV within 24 hours of birth	234 (96.2%)	44 (89.7%)	210 (96.7%)	42 (95.4%)
No. Infants who received 3 rd HBV by age 8 months	173 (71.1%)	32 (65.3%)	171 (78.8%)	40 (90.9%)
No. infants who received 3 rd HBV by age 12 months	198 (81.4%)	37 (75.5%)	190 (87.5%)	43 (97.7%)
No. infants who received post-vaccination testing	142 *(58.4%)	35 *(71.4%)	141 *(64.9%)	32 *(72.7%)
No. infants who tested HBsAg positive (among infants tested)	0 (0.0%)	0 (0.0%)	3 (2.1%)	2 (6.2%)

*based on no. infants that completed the vaccine series by age 12 months

**followed one infant born in another state who subsequently moved to North Carolina

- Mecklenburg County infant data submitted to the North Carolina Department of Health and Human Services by the Communicable Disease Program at the Mecklenburg County Health Department
- Statistics compiled 11-17-09 by Patricia Poole at the North Carolina Department of Health and Human Services

A Preparedness Experience and a Successful Response (continued)

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community.

Initially, we did not have a vaccine so we had to

rely on prevention messages to minimize disease impact. We developed posters, brochures, web info and provided a speaker's bureau to provide information about the disease as well as its prevention and treatment. We worked closely with day care centers and schools to provide information for students and staff. We translated the information and provided it to diverse populations and successfully provided targeted communication messages through the media.



There was a need to track the incidence, deter-

mine the severity of disease, and identify any epidemiological issues. We developed a comprehensive surveillance tool that looked at emergency department presentations for flu like symptoms. We monitored attendance in public schools and in a number of day care centers. CHS and Novant monitored indicators from medical providers in their systems and universities reported information on their student population. By sharing the information continuously, all providers were better prepared to respond efficiently to the community needs.

During the response, the Health Department created a unique call center for H1N1 questions. The size of the call center could be expanded or reduced in size as indicated by call volume. This call center was so successful that when vaccine finally became available, we opened a second call center to take appointments for our clinics and avoid the long lines where people stood and waited for hours for the vaccine. In the first hour of our appointment call center, 5000 calls were attempted. By efficiently answering the calls and expanding the center, the Health Department was able to successfully answer more than 80% of the calls during the afternoon hours. This call center was further enhanced by a web based appointment scheduling system that allowed the public to make appointments on the web.



For major events, the CDC has developed a **Strategic National Stockpile**

which is deployed for local use. This process was successfully utilized during the H1N1 response to receive anti-virals and respirators for hospitals and public health. On September 30, very limited supplies of vaccine were finally received in North Carolina. A massive community vaccination effort that was begun, with the initial priority placed on target populations (health care workers, pregnant woman, children and those under 50 with an underlying health condition) in very carefully coordi-

nated ways. Eventually, the vaccine was made available to the entire population. The carefully planned vaccination effort minimized public frustration and anger caused by the inability to offer the vaccine quickly. The community vaccination was shared by medical providers, the Health Department, pharmacies, MEDIC and private contractors providing vaccinations as quickly as the vaccine became available. The Health Department provided over 60,000 vaccinations in over 150 locations including every public school. MEDIC provided vaccination for law enforcement workers. Carolinas MED-1 (a prototype mobile hospital) and Health Xpressions (a private health care company) were utilized to provide vaccinations for targeted areas. Independent local pharmacies were contracted by the Health Department to offer free vaccines for the public.



The current surveillance data suggests that we are now entering a new phase

of low prevalence of H1N1, and no one knows what the future holds. We will continue to monitor H1N1 with the assistance from our medical partners in the community. But the response provided for H1N1, and the experience that we have gained in working together as partners with other agencies, will enhance our community's overall ability to respond to future events of any type.

Did you know...

...that on February 24, 2010, the Advisory Committee on Immunization Practices (ACIP) voted to expand the recommendation for annual influenza vaccination to include all people aged 6 months and older? The expanded recommendation is scheduled to take effect this fall. Next season's annual influenza vaccine will be trivalent and include A/California/7/2009 (H1N1)-like virus, A/Perth/16/2009 (H3N2)-like virus, and B/Brisbane/60/2008-like virus. The H1N1 virus to be included in the next season's annual influenza vaccine is the same pandemic virus used in the 2009 H1N1 vaccine.

Norovirus Outbreaks

The North Carolina Division of Public Health has noted a recent increase in gastrointestinal illness due to norovirus. Outbreaks have been identified in many long-term care facilities across the state and in several other venues. On February 18, 2010, Dr. Megan Davies, State Epidemiologist, sent a memo to local health directors regarding this increase in norovirus outbreaks. Recently, norovirus outbreaks requiring the hospitalization of several vulnerable individuals have been confirmed in Mecklenburg County. Norovirus information and guidance was sent to nursing homes, assisted living centers, adult day health centers and child care centers in the county as a response to the outbreak situation.

Noroviruses are highly contagious and are transmitted primarily through the fecal-oral route, either by direct person-to-person spread or ingestion of fecally contaminated food or water. Noroviruses can also

spread via the droplet route from vomitus. Many commonly used disinfectants and hand sanitizer gels are **not** effective against norovirus. Dilute chlorine bleach solutions are often required for adequate disinfection and thorough hand washing using soap and water, followed by hand towel drying, is recommended.

In facilities, the most effective measures to end transmission are to:

- Exclude symptomatic persons when possible;
- Thoroughly disinfect all premises where vomiting or diarrheal episodes have occurred;
- Maintain strict adherence to proper hand washing techniques.

The N.C. Division of Public Health has posted detailed guidance concerning norovirus which can be accessed from their homepage at <http://www.ncpublichealth.com/>

This site includes specific guidance for management of norovirus in long-term care facilities and other settings; guidance regarding environmental control/disinfection; personal health measures to limit infection; and guidance for testing at the State Laboratory of Public Health.

Information from the CDC can be found at

<http://www.cdc.gov/ncidod/dvrd/revb/gastro/norovirus-qa.htm>.

As a reminder, testing for norovirus is not always useful for outbreaks that are clinically and epidemiologically consistent with norovirus and occur in areas where norovirus is known to be circulating. **Control measures should never be delayed while awaiting laboratory confirmation.**

For more information, contact Beth Young at Elizabeth.Young@MecklenburgCountyNC.gov or

What's Up with TB

The TB Control Program has been utilizing one of two newly approved serological tests in place of the TB skin test (TST) in recent TB contact investigations. The Interferon Gamma Release Assays (IGRAs)/ QuantiFERON-TBGold® (Quantiferon Gold in-tube) offers testing (and availability of results) for TB infection with a single blood-draw at a single visit and lacks cross-reactivity with BCG and most non-tuberculous Mycobacteria.

Although the cost is significantly greater than for a TB skin test, it should be "particularly considered in populations with suboptimal health-care access-who are unlikely to re-

turn for TST readings, and paired with opt-out testing for HIV to identify close contacts needing Latent TB Infection (LTBI) treatment", according to the N.C. Division of Public Health-TB Control Program, IGRA Guidelines, 10/09. Limiting its general use for TB contact investigations makes it cost-effective for difficult to reach populations.

The Mecklenburg County Health Department's TB and STD Control Program staff partnered to provide this testing for homeless and other at-risk populations during a fall 2009 TB contact investigation in a neighborhood church, and also at

Urban Ministry.

Results of these screenings have demonstrated the benefits of having access to this alternative to the conventional TB skin test. Initially the cost may be a factor, but the end result may justify that cost by increasing the effectiveness of investigations, quicker contact identification and early treatment initiation, thus reducing the number of new TB cases.

For more information, contact Earlene Campbell-Wright at 704.432.1975 or Earlene.Campbell-Wright@MecklenburgCountyNC.gov.

Did you know...

...that March 24th is World TB Day? This annual event commemorates the date in 1882 when Dr. Robert Koch announced his discovery of *Mycobacterium tuberculosis*, the bacteria that cause tuberculosis. In the United States, the theme for World TB Day 2010 is "TB elimination: Together We Can!"

Release of Patient Information to Public Health Officials

In a February 17, 2010 memo to hospital administrators, private physicians, and local health directors, Dr. Jeffrey Engel, State Health Director and Director, NC Division of Public Health, discussed NC General Statute 130A-144 (b) that requires physicians, persons in charge of medical facilities or laboratories and other persons, to release information, including medical or other records, to public health officials upon request and after submitting proper identification when it is determined necessary to diagnose, treat, or prevent a communicable disease or communicable condition.

According to Dr. Engel, the following protocol for proper identification was approved by the Department of Health and Human Services, the N.C. Association of Local Health Direc-

tors, and N.C. Hospital Association:

A request should be considered legitimate when a health care provider or facility is presented with:

1. A letter on local health department (LHD) or Department of Health and Human Services letterhead signed by the local or state health director requesting such information, which can be verified by calling the phone number on the letterhead; or
2. A request made by telephone, when there is personal knowledge of the person requesting the information; or
3. A request made by telephone, when verification is made as follows:
 - a. Request the phoning indi-

vidual's telephone number so that a return call can be made.

- b. Call the LHD to verify the identity of the caller; and
- c. Return the call at the verified number.
4. An identification card indicating that the person making the request is an employee of the LHD or the Department of Health and Human Services.

Communicable disease reporting to local public health directors and to the State Health Director is not affected by HIPAA. The HIPAA Privacy Rule defers to state statutes that require disease reporting.

The complete memo can be found at www.meckhealth.org.

HIV Services

HIV services have long been a priority of the Mecklenburg County Health Department but, until recently, these services were spread throughout a number of departments. In January of this year, HIV services were brought together in the new HIV/STD Community Services Department. This new program was formed to link our system of care from prevention education, to HIV counseling and testing, to referrals, case management and Positive Possibilities for those living with HIV/AIDS. HIV/STD Community Services staff includes health educators, HIV counselors at clinic sites, the Outreach and Testing team, and HIV case managers. These programs represent a continuum of HIV services to link clients to care. The effectiveness of combining these programs under one division

has already been demonstrated through working relationships that have been formed between case managers and outreach workers. Through these new relationships we are better able to get newly diagnosed individuals into treatment and on the road to healthy management of their disease.

In addition to this new union, the Outreach Testing Team has been focusing on increasing evening testing sites. We now have four different evening sites with hours starting as early as four o'clock and running some nights until eight o'clock. This opens the door to those who are unable to come for testing during regular business hours. Our newest testing sites are at both C.W. Williams Health Center locations and at

CMC Northpark. A Spanish-speaking counselor is available every Tuesday evening from 6-8pm at the CMC Northpark site.

All community testing sites, times, and locations can be found at www.meckhealth.org. For more information, contact Jeffery Williams-Knight at Jeffery.Williams-Knight@MecklenburgCountyNC.gov or 704.432.1506.



Did you know...

...that the salmonella menace that haunts undercooked chicken is named after a person? Daniel Elmer Salmon was a veterinary pathologist who ran a USDA microorganism research program during the late 19th century. Although Salmon didn't actually discover the type of bacterium that now bears his name – famed epidemiologist Theobald Smith isolated the bacteria in 1885 – he ran the research program in which the discovery occurred. Smith and his colleagues named the bacteria salmonella in honor of their boss.

Reporting Communicable Diseases – Mecklenburg County

To request N.C. Communicable Disease Report Cards, telephone 704.336.2817

Mark all correspondence "CONFIDENTIAL"

Tuberculosis:

TB Clinic	704.432.2490
Mecklenburg County Health Department	FAX 704.432.2493
2845 Beatties Ford Road	
Charlotte, NC 28216	

Sexually Transmitted Diseases, HIV, & AIDS:

HIV/STD Surveillance	704.432.1742
Mecklenburg County Health Department	FAX 704.336.6200
700 N. Tryon Street, Suite 214	
Charlotte, NC 28202	

All Other Reportable Communicable Diseases including Viral Hepatitis A, B & C:

Report to any of the following nurses:

Freda Grant, RN	704.336.6436
Jane Hoffman, RN,	704.336.5490
Elizabeth Quinn, RN	704.336.5398
Belinda Worsham, RN	704.336.5498
Penny Moore, RN	704.353.1270
Communicable Disease Control	FAX 704.353.1202
Mecklenburg County Health Department	
700 N. Tryon Street, Suite 271	
Charlotte, NC 28202	

Animal Bite Consultation / Zoonoses / Rabies Prevention:

Al Piercy, RS	704.336.6440
Communicable Disease Control	FAX 704.432.6708
Mecklenburg County Health Department	
618 N. College St.	
Charlotte, NC 28202	
or State Veterinarian, Carl Williams, DVM	919.707.5900
State after hours	919.733.3419

Child Care Nurse Consultant:

Elizabeth Young, RN	704.336.5076
Communicable Disease Control	FAX 704.353.1202
Mecklenburg County Health Department	
700 N. Tryon Street, Suite 271	
Charlotte, NC 28202	

Suspected Food borne Outbreaks / Restaurant, Lodging, Pool and Institutional Sanitation:

Food & Facilities Sanitation	(Mon-Fri)	704.336.5100
Mecklenburg County Health Department	(evenings; Sat/Sun)	704.432.1054
700 N. Tryon Street, Suite 208	(pager evenings; Sat/Sun)	704.580.0666
Charlotte, NC 28202	FAX	704.336.5306

Mecklenburg County Health Department